Peptide Array, *Yersinia pestis* F1 Capsule Antigen

Catalog No. NR-2866

This reagent is the tangible property of the U.S. Government.

For research use only. Not for human use.

Contributor:

NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH

Product Description:

The 27-peptide array spans the F1 capsule antigen of the gram-negative bacterium *Yersinia pestis* (GenPept: NP_395430).[1] Peptides are 14- to 17-mers, with 11 amino acid overlaps. Please see Table 1 for length and sequence of individual peptides.

Material Provided:

Peptides are provided lyophilized at 1 mg per vial.

Packaging/Storage:

Lyophilized peptides should be placed in a closed dry environment with dessicants and stored at -20ºC or colder immediately upon arrival. A frost-free freezer should be avoided, since changes in moisture and temperature may affect peptide stability.

Solubility:

Solubility may vary based on the amino acid content of the individual peptide (see Table 2). Peptides can almost always be dissolved in 100% DMSO.

Reconstitution:

Lyophilized peptides should be warmed to room temperature for 1 hour prior to reconstitution. They should be dissolved at the highest possible concentration, and then diluted with water or buffer to the working concentration. Buffer should be added only after the peptide is completely in solution because salts may cause aggregation.

The most common dissolution process is 1 mg of peptide in 1 mL of sterile, distilled water or 1 mL of 100% DMSO. The DMSO can be slowly diluted to a lower concentration with aqueous medium. Care must be taken to ensure that the peptide does not begin to precipitate out of solution. For cell-based assays, 0.5% DMSO in medium is usually well-tolerated.

Sonication and/or the addition of small amounts of dilute (10%) aqueous acetic acid for basic peptides, aqueous ammonia for acidic peptides or acetonitrile may also help dissolution (see Table 2). These solvents may not be appropriate for certain applications, including cell-based assays.

Storage of Reconstituted Peptides:

The shelf life of peptides in solution is very limited, especially for sequences containing cysteine, methionine, tryptophan, asparagine, glutamine, and N-terminal glutamic acid. In general, peptides may be aliquoted and stored in solution for a few days at -20ºC or colder. For long-term storage, peptides should be re-lyophilized and stored at -20ºC or colder. If long-term storage in solution is unavoidable, peptide solutions should be buffered to pH 5–6, aliquoted and stored at -20ºC or colder. Freeze-thaw cycles should be avoided.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Peptide Array, *Yersinia pestis* F1 capsule antigen, NR-2866."

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 4th ed. Washington, DC: U.S. Government Printing Office, 1999. HHS Publication No. (CDC) 93-8395. This text is available online at www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4toc.htm.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government make any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Biodefense and Emerging Infections Research Resources Repository
P.O. Box 4137
Manassas, VA 20108-4137 USA
www.beiresources.org

800-359-7370
Fax: 703-365-2898
E-mail: contact@beiresources.org

Product Information Sheet for NR-2866

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to negotiate a license. U.S. Government contractors may need a license before first commercial sale. This material may be subject to third party patent rights.

References:

1. Parkhill, J., et al. "Genome Sequence of *Yersinia pestis*, the Causative Agent of Plague." Nature 413 (2001): 523–527. PubMed: 11586360. GenPept: NP_395430.

Table 1

Peptide	Length	Sequence
1 of 27	17	1 MKKISSVIAIALFGTIA 17
2 of 27	17	7 VIAIALFGTIATANAAD 23
3 of 27	17	13 FGTIATANAADLTASTT 29
4 of 27	17	19 ANAADLTASTTATATLV 35
5 of 27	17	25 TASTTATATLVEPARIT 41
6 of 27	17	31 TATLVEPARITLTYKEG 47
7 of 27	17	37 PARITLTYKEGAPITIM 53
8 of 27	17	43 TYKEGAPITIMDNGNID 59
9 of 27	17	49 PITIMDNGNIDTELLVG 65
10 of 27	17	55 NGNIDTELLVGTLTLGG 71
11 of 27	17	61 ELLVGTLTLGGYKTGTT 77
12 of 27	17	67 LTLGGYKTGTTSTSVNF 83
13 of 27	17	73 KTGTTSTSVNFTDAAGD 89
14 of 27	17	79 TSVNFTDAAGDPMYLTF 95
15 of 27	17	85 DAAGDPMYLTFTSQDGN 101
16 of 27	17	91 MYLTFTSQDGNNHQFTT 107
17 of 27	17	97 SQDGNNHQFTTKVIGKD 113
18 of 27	17	103 HQFTTKVIGKDSRDFDI 119
19 of 27	17	109 VIGKDSRDFDISPKVNG 125
20 of 27	17	115 RDFDISPKVNGENLVGD 131
21 of 27	17	121 PKVNGENLVGDDVVLAT 137
22 of 27	17	127 NLVGDDVVLATGSQDFF 143
23 of 27	17	133 VVLATGSQDFFVRSIGS 149
24 of 27	17	139 SQDFFVRSIGSKGGKLA 155
25 of 27	17	145 RSIGSKGGKLAAGKYTD 161
26 of 27	17	151 GGKLAAGKYTDAVTVTV 167
27 of 27	14	157 GKYTDAVTVTVSNQ 170

Biodefense and Emerging Infections Research Resources Repository
P.O. Box 4137
Manassas, VA 20108-4137 USA
www.beiresources.org
800-359-7370
Fax: 703-365-2898
E-mail: contact@beiresources.org

Table 2		
Peptide	**Solubility**	**Solvent**
1 of 27	1 mg/mL	50% acetic acid in water
2 of 27	1 mg/mL	50% acetic acid in water
3 of 27	1 mg/mL	70% acetonitrile in water
4 of 27	1 mg/mL	50% acetic acid in water
5 of 27	1 mg/mL	70% acetonitrile in water
6 of 27	1 mg/mL	70% acetonitrile in water
7 of 27	1 mg/mL	70% acetonitrile in water
8 of 27	1 mg/mL	70% acetonitrile in water
9 of 27	1 mg/mL	50% acetic acid in water
10 of 27	1 mg/mL	70% acetonitrile in water
11 of 27	1 mg/mL	70% acetonitrile in water
12 of 27	1 mg/mL	70% acetonitrile in water
13 of 27	1 mg/mL	70% acetonitrile in water
14 of 27	1 mg/mL	70% acetonitrile in water
15 of 27	1 mg/mL	70% acetonitrile in water
16 of 27	1 mg/mL	70% acetonitrile in water
17 of 27	1 mg/mL	70% acetonitrile in water
18 of 27	1 mg/mL	70% acetonitrile in water
19 of 27	1 mg/mL	70% acetonitrile in water
20 of 27	1 mg/mL	70% acetonitrile in water
21 of 27	1 mg/mL	70% acetonitrile in water
22 of 27	1 mg/mL	50% acetic acid in water
23 of 27	1 mg/mL	50% acetic acid in water
24 of 27	1 mg/mL	70% acetonitrile in water
25 of 27	1 mg/mL	70% acetonitrile in water
26 of 27	1 mg/mL	70% acetonitrile in water
27 of 27	1 mg/mL	50% acetic acid in water

Biodefense and Emerging Infections Research Resources Repository
P.O. Box 4137
Manassas, VA 20108-4137 USA
www.beiresources.org

800-359-7370
Fax: 703-365-2898
E-mail: contact@beiresources.org